

Amendment and Response

Applicant: Willard Charles Raymond

Serial No.: 10/622,850

Filed: July 18, 2003

Docket No.: A126.116.102

Title: ADJUSTABLE WAFER ALIGNMENT ARM

IN THE SPECIFICATION

Please replace the paragraph beginning at page 4, line 5 with the following rewritten paragraph:

The handling system 10, and in particular the frame support 12, is adapted to handle and load/unload film frames 14 (one of which is shown in Figure 1, it being noted that the film frame 14 does not include a formed wafer) to and from a cassette 16. The cassette 16 is maintained by a load port 18 of the handling system 10 at a fixed position relative to the frame support 12. To this end, the cassette 16 forms a plurality of slots 20 (referenced generally in Figure 1) each sized to receive one ~~cassette 16~~ film frame 14. With this in mind, the handling system 10 is adapted to handle a variety of differently sized film frames, such as 150mm, 200mm and 300mm film frames. As a point of reference, when a 300mm film frame is gripped from its edge, the size and mass of the frame causes a slight sag in the film stretched in between the ring-shaped frame. Due to a variety of factors, it is difficult to anticipate the actual amount of sag from film frame to film frame, although it is known that the typical pitch of a film frame cassette is 0.39".

Please replace the paragraph beginning at page 5, line 15 with the following rewritten paragraph:

The contact elements 40 are mounted to the respective support arm 32 or 34 so as to be horizontally moveable (relative to the orientation of Figures 1 and 2). For example, the contact elements 40 are secured to or about a shaft that is otherwise extendably connected to the respective support arm 32 or 34. Alternatively, the contact elements 40 can be mounted to a support plate that is pivotally secured to the respective support arm 32 or 34. Regardless of the exact mounting technique, a programmable drive mechanism (unnumbered in the Figures) is connected to the component otherwise supporting the contact elements 40 and dictates a desired horizontal position of the rollers 40 relative to the base arm 30 and/or the support arms

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32, 34. For example, an actuator mechanism 44, such as a servo actuator, can be provided that, upon activation, horizontally extends/retracts the contact elements 40 to the desired location that is otherwise dictated by a diameter of the film frame 14 being handled.

Please replace the paragraph beginning at page 6, line 13 with the following rewritten paragraph:

During use, a diameter of the film frame 14 is determined, and the handling system 10 is arranged to handle the film frame 14. For example, where it is determined that the film frame 14 has a diameter of 300 mm, the handling system 10 is arranged such that the contact elements 40 are properly positioned to contact the outer, bottom edge of a 300mm diameter film frame 14. Arrangement of the contact elements 40 is preferably accomplished electronically, such as by programming of the actuator mechanism 44 that otherwise dictates a horizontal position of the contact elements 40. Alternatively or in addition, the handling system 10 can be configured such that the contact elements 40 are manually positioned. Regardless, when a differently sized film frame 14 (e.g., a 200mm diameter film frame) is subsequently processed (in connection with a differently-sized cassette), the contact elements 40 are readily horizontally re-positioned to accommodate the diameter of the new film frame.